

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-16 (Canceled).

17. (Currently amended) An electric operation apparatus comprising:

a high frequency electric current generating circuit that generates a high frequency electric current for feeding the high frequency electric current to electrodes;

a direct current power supply circuit that supplies variable direct current electric power to the high frequency electric current generating circuit to adjust an output of the high frequency electric current generating circuit;

a detecting circuit including at least a sensor for monitoring a therapeutic condition brought about by the high frequency electric current during a treatment;

a therapeutic condition estimation circuit that estimates the therapeutic condition based on information of the therapeutic condition monitored during the treatment, the therapeutic condition estimation circuit selecting a target value corresponding to the estimated therapeutic condition upon completion of the treatment among a plurality of predetermined target values, said information being based on dimensions of a contact area between said electrodes and a treatment site; and

a supplied power setting circuit that sets the electric power supplied by the direct current power supply circuit, the supplied power setting circuit reducing the electric power supplied by a predetermined fraction to a predetermined supply condition so as to reduce the high frequency electric current if a detected result of the detecting circuit reaches the target value selected by the therapeutic condition estimation circuit.

18. (Previously presented) The electric operation apparatus of claim 17, wherein the therapeutic condition estimation circuit selects the target value based on a maximum of the high frequency electric current value.
19. (Previously presented) The electric operation apparatus of claim 17, wherein the target value is determined based on a maximum high frequency electric current value.
20. (Previously presented) The electric operation apparatus of claim 17, wherein the therapeutic condition estimation circuit selects the target value based on an amount of time corresponding to variations in a sampled electric current value.
21. (Previously presented) The electric operation apparatus of claim 17, wherein the therapeutic condition estimation circuit selects the target value based on a time needed to achieve a maximum sampled electric current value.
22. (Previously presented) The electric operation apparatus of claim 21, wherein the supplied power setting circuit compares the current high frequency electric current value detected by the detecting circuit with a threshold value determined based on the maximum value, and modifies the setting such that the supplied power is reduced based on the comparison result.
23. (Previously presented) The electric operation apparatus of claim 21, wherein the supplied power setting circuit determines whether the high frequency electric current value reaches a predetermined threshold value after a time period predetermined to indicate that a blood coagulation treatment has been completed, and modifies the setting such that the supplied electric power is reduced if it is confirmed that coagulation has indeed occurred.

24. (Previously presented) The electric operation apparatus of claim 17, wherein the therapeutic condition estimation circuit selects the target value based on an amount of time corresponding to variations in a sampled impedance value of a subject being treated.

25. (Previously presented) The electric operation apparatus of claim 17, wherein the therapeutic condition estimation circuit selects the target value based on a time needed for a sampled impedance value of a subject being treated to reach a minimum value.

26. (Previously presented) The electric operation apparatus of claim 25, wherein the supplied power setting circuit compares the current impedance value with a target value established based on the minimum value, and modifies the setting such that the supplied power is reduced based on the comparison result.

27. (Previously presented) The electric operation apparatus of claim 25, wherein the supplied power setting circuit determines whether the impedance value reaches a predetermined threshold value after a time period predetermined to indicate that a blood coagulation treatment has been completed, and modifies the setting such that the supplied electric power is reduced if it is confirmed that coagulation has indeed occurred.

28. (Currently amended) An output control method for an electric operation apparatus comprising a high frequency electric current generating circuit that generates a high frequency electric current for feeding the high frequency electric current to electrodes, a direct current power supply circuit that supplies variable direct current electric power to the high frequency electric current generating circuit to adjust an output of the high frequency electric current generating circuit, and a detecting circuit that monitors a therapeutic condition brought about by the high frequency electric current during a treatment, the method comprising:

monitoring the therapeutic condition brought about by the high frequency electric current during the treatment;

estimating the therapeutic condition upon completion of the treatment based on information of the therapeutic condition monitored during the treatment, said information being based on dimensions of a contact area between said electrodes and a treatment site;

setting a target value based on an estimated result obtained at the estimating step; and

rendering the direct current power supply circuit a predetermined supply condition in order to reduce a supply power of the direct current power supply circuit by a predetermined fraction if a detected result reaches the target value set at the setting step.

29. (Previously Presented) An electric operation apparatus comprising:

a high frequency electric current generating circuit that generates a high frequency electric current for feeding the high frequency electric current to electrodes;

a direct current power supply circuit that supplies variable direct current electric power to the high frequency electric current generating circuit to adjust an output of the high frequency electric current generating circuit;

a detecting circuit including at least a sensor for monitoring a therapeutic condition brought about by the high frequency electric current during a treatment;

a therapeutic condition estimation circuit that estimates the therapeutic condition based on information of the therapeutic condition monitored during the treatment, the therapeutic condition estimation circuit selecting a target value corresponding to the estimated therapeutic condition upon completion of the treatment among a plurality of predetermined target values; and

a supplied power setting circuit that sets the electric power supplied by the direct current power supply circuit, the supplied power setting circuit changing the electric power supplied to a predetermined supply condition so as to reduce the high frequency electric current if a detected result of the detecting circuit reaches a target value set by the therapeutic condition estimation circuit;

wherein the therapeutic condition estimation circuit selects the target value based on a time needed to achieve a maximum sampled electric current value.

30. (Previously Presented) The electric operation apparatus of claim 29, wherein the supplied power setting circuit compares the current high frequency electric current value detected by the detecting circuit with a threshold value determined based on the maximum value, and modifies the setting such that the supplied power is reduced based on the comparison result.

31. (Previously Presented) The electric operation apparatus of claim 29, wherein the supplied power setting circuit determines whether the high frequency electric current value reaches a predetermined threshold value after a time period predetermined to indicate that a blood coagulation treatment has been completed, and modifies the setting such that the supplied electric power is reduced if it is confirmed that coagulation has indeed occurred.

32. (Previously Presented) The electric operation apparatus of claim 29, wherein the therapeutic condition estimation circuit selects the target value based on a maximum of the high frequency electric current value.

33. (Previously Presented) The electric operation apparatus of claim 29, wherein the target value is determined based on a maximum high frequency electric current value.

34. (Previously Presented) The electric operation apparatus of claim 29, wherein the therapeutic condition estimation circuit selects the target value based on an amount of time corresponding to variations in a sampled electric current value.

35. (Previously Presented) The electric operation apparatus of claim 29, wherein the therapeutic condition estimation circuit selects the target value based on an amount of time corresponding to variations in a sampled impedance value of a subject being treated.

36. (Previously Presented) An electric operation apparatus comprising:

a high frequency electric current generating circuit that generates a high frequency electric current for feeding the high frequency electric current to electrodes;

a direct current power supply circuit that supplies variable direct current electric power to the high frequency electric current generating circuit to adjust an output of the high frequency electric current generating circuit;

a detecting circuit including at least a sensor for monitoring a therapeutic condition brought about by the high frequency electric current during a treatment;

a therapeutic condition estimation circuit that estimates the therapeutic condition based on information of the therapeutic condition monitored during the treatment, the therapeutic condition estimation circuit selecting a target value corresponding to the estimated therapeutic condition upon completion of the treatment among a plurality of predetermined target values; and

a supplied power setting circuit that sets the electric power supplied by the direct current power supply circuit, the supplied power setting circuit changing the electric power supplied to a predetermined supply condition so as to reduce the high frequency electric current if a detected result of the detecting circuit reaches a target value set by the therapeutic condition estimation circuit;

wherein the therapeutic condition estimation circuit selects the target value based on a time needed for a sampled impedance value of a subject being treated to reach a minimum value.

37. (Previously Presented) The electric operation apparatus of claim 36, wherein the supplied power setting circuit compares the current impedance value with a target value established based on the minimum value, and modifies the setting such that the supplied power is reduced based on the comparison result.

38. (Previously Presented) The electric operation apparatus of claim 36, wherein the supplied power setting circuit determines whether the impedance value reaches a predetermined threshold value after a time period predetermined to indicate that a blood coagulation treatment has been completed, and modifies the setting such that the supplied electric power is reduced if it is confirmed that coagulation has indeed occurred.

39. (Previously Presented) The electric operation apparatus of claim 36, wherein the therapeutic condition estimation circuit selects the target value based on a maximum of the high frequency electric current value.

40. (Previously Presented) The electric operation apparatus of claim 36, wherein the target value is determined based on a maximum high frequency electric current value.

41. (Previously Presented) The electric operation apparatus of claim 36, wherein the therapeutic condition estimation circuit selects the target value based on an amount of time corresponding to variations in a sampled electric current value.

42. (Previously Presented) The electric operation apparatus of claim 36, wherein the therapeutic condition estimation circuit selects the target value based on an amount of time corresponding to variations in a sampled impedance value of a subject being treated.

43. (Previously Presented) An output control method for an electric operation apparatus comprising a high frequency electric current generating circuit that generates a high frequency electric current for feeding the high frequency electric current to electrodes, a direct current power supply circuit that supplies variable direct current electric power to the high frequency electric current generating circuit to adjust an output of the high frequency electric current generating circuit, and a detecting circuit that monitors a therapeutic condition brought about by the high frequency electric current during a treatment, the method comprising:

monitoring the therapeutic condition brought about by the high frequency electric current during the treatment;

estimating the therapeutic condition upon completion of the treatment based on information of the therapeutic condition monitored during the treatment;

setting a target value based on an estimated result obtained at the estimating step, and based on a time needed to achieve a maximum sampled electric current value; and

rendering the direct current power supply circuit a predetermined supply condition in order to reduce a supply power of the direct current power supply circuit if a detected result reaches the target value set at the setting step.

44. (Previously Presented) An output control method for an electric operation apparatus comprising a high frequency electric current generating circuit that generates a high frequency electric current for feeding the high frequency electric current to electrodes, a direct current power supply circuit that supplies variable direct current electric power to the high frequency electric current generating circuit to adjust an output of the high frequency electric current generating circuit, and a detecting circuit that monitors a therapeutic condition brought about by the high frequency electric current during a treatment, the method comprising:

monitoring the therapeutic condition brought about by the high frequency electric current during the treatment;

estimating the therapeutic condition upon completion of the treatment based on information of the therapeutic condition monitored during the treatment;

setting a target value based on an estimated result obtained at the estimating step, and based on a time needed for a sampled impedance value of a subject being treated to reach a minimum value; and

rendering the direct current power supply circuit a predetermined supply condition in order to reduce a supply power of the direct current power supply circuit if a detected result reaches the target value set at the setting step.